

ABSTRACT

This invention obviates the need for an end roller in the traditional gear bearing design without giving up the desired bearing functions. The preferred embodiment of the partial gear bearing of the invention includes an upper half, comprising peak partial teeth, and a lower, or bottom, half, comprising valley partial teeth. The upper half also has an integrated roller section between each of the peak partial teeth with a radius equal to the gear pitch radius of the radially outwardly extending peak partial teeth. Conversely, the lower half has an integrated roller section between each of the valley half teeth with a radius also equal to the gear pitch radius of the peak partial teeth. The valley partial teeth extend radially inwardly from its roller section. The peak and valley partial teeth are exactly out of phase with each other, as are the roller sections of the upper and lower halves. Essentially, the end roller bearing of the typical gear bearing has been integrated into the normal gear tooth pattern.